

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.-5. (canceled)

6. (currently amended) An appliance for gasification of carbon- and ash-containing fuel, residual and waste materials using an oxygen-containing oxidizing agent at temperatures above a melting point of inorganic fractions and at pressures between atmospheric pressure and 80 bar, comprising a reaction chamber designed as an entrained-bed reactor, the reaction chamber having a contour delimited by a cooled reactor wall and having an inlet opening and an outlet opening, the cooled reactor wall having the following structure from the outside inward:

a pressure shell;

a cooling wall arranged inside of the pressure shell and delimiting the reaction chamber;

a water-cooled cooling gap between the pressure shell and the cooling wall;

a ceramic protection layer for the cooling wall on a side of the cooling wall facing away from the cooling gap; and

a layer of slag on an internal surface of the cooling wall facing the reaction chamber such that said ceramic protection layer is arranged between said cooling wall and said layer of slag, pressure and temperature of the cooling gap between the pressure shell and the

cooling wall being controllable so that the reactor can be operated above and below a boiling point of cooling water, pressure in the cooling gap being higher than pressure in the gasification chamber.

7. (currently amended) An appliance for gasification of carbon-containing, ash-free fuel, residual and waste materials using an oxygen-containing oxidizing agent at temperatures above 850°C and at pressures between atmospheric pressure and 80 bar, comprising a reaction chamber designed as an entrained-bed reactor having a contour delimited by a cooled reactor wall and having an inlet opening and an outlet opening, the cooled reactor wall having the following structure from the outside inward:

a pressure shell;

a cooling wall arranged inside of the pressure shell and delimiting the reaction chamber;

a water-cooled gap between the pressure shell and the cooling wall;

a ceramic protection layer for the cooling wall on a side of the cooling wall facing away from the cooling gap; and

a refractory lining on an internal surface of the cooling wall facing the reaction chamber such that said ceramic protection layer is arranged between said cooling wall and said layer of slag, the cooling gap between the pressure shell and the cooling wall being operable, with a filling of pressurized water, above or below a boiling point of the cooling water, pressure in the cooling gap being higher than pressure in the gasification chamber.

8. (currently amended) An appliance as defined in claim 6, wherein the cooling wall comprises half-tubes which are welded together in a gastight manner, are pinned and are coated with a thin layer of ceramic mass with a high thermal conductivity, the half-tubes being arranged on a side of the ceramic protection layer facing the cooling gap.

9. (currently amended) An appliance as defined in claim 7, wherein the cooling wall comprises half-tubes which are welded together in a gastight manner, are pinned and are coated with a thin layer of ceramic mass with a high thermal conductivity, the half-tubes being arranged on a side of the ceramic protection layer facing the cooling gap.

10. (previously presented) An appliance as defined in claim 8, wherein the thin layer of ceramic mass is a flame-sprayed layer on the cooling wall.

11. (previously presented) An appliance as defined in claim 9, wherein the thin layer of ceramic mass is a flame-sprayed layer on the cooling wall.

12. (previously presented) An appliance as defined in claim 6, wherein the cooling wall has geometric shapes.

13. (previously presented) An appliance as defined in claim 7, wherein the cooling wall has geometric shapes.

14. (previously presented) An appliance as defined in claim 6, wherein the cooling wall is one of trapezium-shaped, triangular, rectangular, of undulating form and of smooth form.

15. (previously presented) An appliance as defined in claim 7, wherein the cooling wall is one of trapezium-shaped, triangular, rectangular, of undulating form and of smooth form.

16. (currently amended) An appliance as defined in claim 6, wherein the pressure shell is connected to the cooling wall only at the input opening and the outlet opening, wherein the protective layer facilitates cooling of the layer of slag.

17. (currently amended) An appliance as defined in claim 7, wherein the pressure shell is connected to the cooling wall only at the input opening and the outlet opening, wherein the protective layer facilitates cooling of the refractory lining.